

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/03487

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K16/30 C12N5/10 G01N33/574 A61K39/395 C12N15/13  
C12N15/63 A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, Sequence Search, WPI Data, PAJ, BIOSIS-

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>VOLLMERS H P ET AL: "APOPTOSIS OF STOMACH CARCINOMA CELLS INDUCED BY A HUMAN MONOCLONAL ANTIBODY" CANCER, AMERICAN CANCER SOCIETY, PHILADELPHIA, PA, US, vol. 76, no. 4, 1995, pages 550-558, XP000941179 ISSN: 0008-543X</p> <p>abstract page 35, right-hand column, lines 13-19 page 37, left-hand column, lines 1-4, 47-50 ----- -/-</p>	<p>1-3, 5-8, 10-14, 19, 22, 23, 28-31, 40, 41, 46-48, 51-57, 68-99, 108-110</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure; use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

18 December 2003

Date of mailing of the international search report

19. 04. 2004

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT.

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/083560 A (ICHIKAWA KIMIHISA ;KIMBERLY ROBERT P (US); KOOPMAN WILLIAM J (US);) 8 November 2001 (2001-11-08)	1-3,5-8, <del>10-14,</del> <del>19,22,</del> 23, 28-31, 40,41, 46-48, 51-57, 68-99, 108-110
	<u>examples 7,9,15,17</u>	
X	BRAENDLEIN STEPHANIE ET AL: "Characterization of five new fully human monoclonal IgM antibodies isolated from carcinoma patients" PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL, vol. 43, March 2002 (2002-03), page 970, XP001155782 93rd Annual Meeting of the American Association for Cancer Research;San Francisco, California, USA; April 06-10, 2002, March, 2002 ISSN: 0197-016X abstract	1-3,5-8, 10-14, 19,22, 23, 28-31, 40,41, 46-48, 51-57, 68-99, 108-110
X	BRAENDLEIN STEPHANIE ET AL: "Human monoclonal IgM antibodies with apoptotic activity isolated from cancer patients." HUMAN ANTIBODIES, vol. 11, no. 4, 2002, pages 107-119, XP009020163 ISSN: 1093-2607	1-3,5-8, 10-14, 19,22, 23, 28-31, 40,41, 46-48, 51-57, 68-99, 108-110
	the whole document	
A	KAMITANI HIDEKI ET AL: "Expression of 15-lipoxygenase by human colorectal carcinoma Caco-2 cells during apoptosis and cell differentiation" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 273, no. 34, 21 August 1998 (1998-08-21), pages 21569-21577, XP002265388 ISSN: 0021-9258	1-3,5-8, 10-14, 19,22, 23, 28-31, 40,41, 46-48, 51-57, 68-99, 108-110
	the whole document	
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E	<p>WO 03/076472 A (MUELLER-HERMELINK HANS KONRAD; ONCOMAB GMBH (DE); VOLLMERS HEINZ P) 18 September 2003 (2003-09-18)</p> <p>page 2, lines 11-25 page 17, lines 6-18 claims</p> <p>-----</p>	<p>1,3,5,6, <del>8,10-12,</del> <del>46,47,</del> 51,52, 69-92</p>

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International application No.  
PCT/IB 03/03487

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
**Although claims 77-90 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.**
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

**see additional sheet**

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
**1, 3, 5, 6, 8, 10-12, 46, 47, 51, 52, 68-95, 108-110 (part); 2, 7, 13, 14, 19, 22, 23, 28-31  
40, 41, 48, 53-57, 96-99 (complete)**

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,3,5,6,8,10-12,46,47,51,52,68-95,108-110 (part);  
2,7,13,14,19,22,23,28-31,40,41,48,53-57,  
96-99 (complete)

A purified polypeptide that binds to and induces apoptosis of neoplastic cells and does not bind to non-neoplastic cells. The polypeptide is coded by DNA sequences seq.ID 2 and 4, has amino acid sequences seq.ID 1 and 3, binds to the neoplastic cells ASPC-1 and BXPC-3. Related cells expressing the polypeptide and a method of generating these cells, a vector comprising said DNA and a cell comprising this vector, methods for the treatment and diagnosis of neoplasm.

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2. claims: 1-12,46,47,51,52,68-95,108-110 (part);  
15,16,20,24,25,32-35,42,43,49,58-62,  
100-103 (complete)

A purified polypeptide that binds to and induces apoptosis of neoplastic cells and does not bind to non-neoplastic cells. The polypeptide is coded by DNA sequences seq.ID 6 and 8, has amino acid sequences seq.ID 5 and 7, binds to the neoplastic cells HT-29, CACO-2, COLO-320, COLO-206F, ASPC-1 and BXPC-3. Related cells expressing the polypeptide and a method of generating these cells, a vector comprising said DNA and a cell comprising this vector, methods for the treatment and diagnosis of neoplasm.

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3. claims: 1,3,5,6,8,10-12,46,47,51,52,68-95,108-110 (part);  
4,9,17,18,21,26,27,36-39,44,45,50,63-67,  
104-107 (complete)

A purified polypeptide that binds to and induces apoptosis of neoplastic cells and does not bind to non-neoplastic cells. The polypeptide is coded by DNA sequences seq.ID 9 and 11, has amino acid sequences seq.ID 10 and 12, binds to the neoplastic cells CACO-2 and COLO-206F. Related cells expressing the polypeptide and a method of generating these cells, a vector comprising said DNA and a cell comprising this vector, methods for the treatment and diagnosis of neoplasm.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0183560	A	08-11-2001	AU 5936601 A	12-11-2001
			CA 2407965 A1	08-11-2001
			<del>CN 1440424 T</del>	<del>03-09-2003</del>
			CZ 20023917 A3	14-05-2003
			EP 1287035 A1	05-03-2003
			JP 2004502409 T	29-01-2004
			NO 20025253 A	18-12-2002
			WO 0183560 A1	08-11-2001
			US 2003190687 A1	09-10-2003
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WO 03076472	A	18-09-2003	DE 10210427 A1	09-10-2003
			WO 03076472 A2	18-09-2003
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